

Abstract

The aim of the invention is to provide a vertical nano-transistor which withstands stresses and is less complex than prior art nano-transistors. For this purpose, the invention provides a vertical nano-transistor which comprises a source region, a drain region, a gate region and a semiconductor channel region between the source region and the drain region. The inventive transistor is characterized in that the gate region is constituted by a metal film into which the transistor is embedded in such a manner that the gate region and the semiconductor channel region form a coaxial structure and the source region, the semiconductor channel region and the drain region are disposed vertically and the gate region is electrically insulated from the source region, the drain region and the semiconductor channel region. The invention also relates to a method of producing the inventive transistor and a memory assembly.